

**YUKON SNOW SURVEY
BULLETIN & WATER
SUPPLY FORECAST**
May 1, 2016

Prepared and issued by:
Water Resources Branch
Environment Yukon



PREFACE

The Yukon Snow Survey Bulletin and Water Supply Forecast is prepared and issued three times annually – after April 1st, April 1st and May 1st – by Environment Yukon’s Water Resources Branch. The bulletin provides a summary of winter meteorological and streamflow conditions for Yukon, as well as current snow depth and snow water equivalent observations for 56 locations. This information is used to make projections of total volume runoff for the summer period and an estimate of peak flow for the main river basins and subbasins including the upper and lower Yukon, Pelly, Stewart, Liard, Alsek, Porcupine and Peel Rivers. Information about the bulletin, snowpack conditions or streamflow projections can be obtained by contacting:

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WATER NETWORK CHANGES for 2016

There were no water network changes in 2016. This bulletin, as well as earlier editions, is available online at: www.env.gov.yk.ca/snowbulletin

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Other agencies that contribute significantly to the Snow Survey Program by providing data, assistance and information for the bulletin are:

Data Collection Officer, Natural Resources Conservation Service, United States Department of Agriculture

Meteorologist, Wildland Fire Management, Yukon Department of Community Services

Officer in Charge, Water Survey of Canada, Whitehorse

Water Management Engineer, Yukon Energy Corporation

Agencies cooperating with Environment Yukon in the Snow Survey Program are:

B.C. Ministry of Environment, Water Stewardship Division

Parks Canada

Yukon Department of Energy Mines and Resources, Compliance Monitoring and Inspections Branch

Yukon Department of Environment, Information Management and Technology Branch

YUKON TERRITORY SNOWPACK CONDITIONS AND RUNOFF PROJECTION

WEATHER

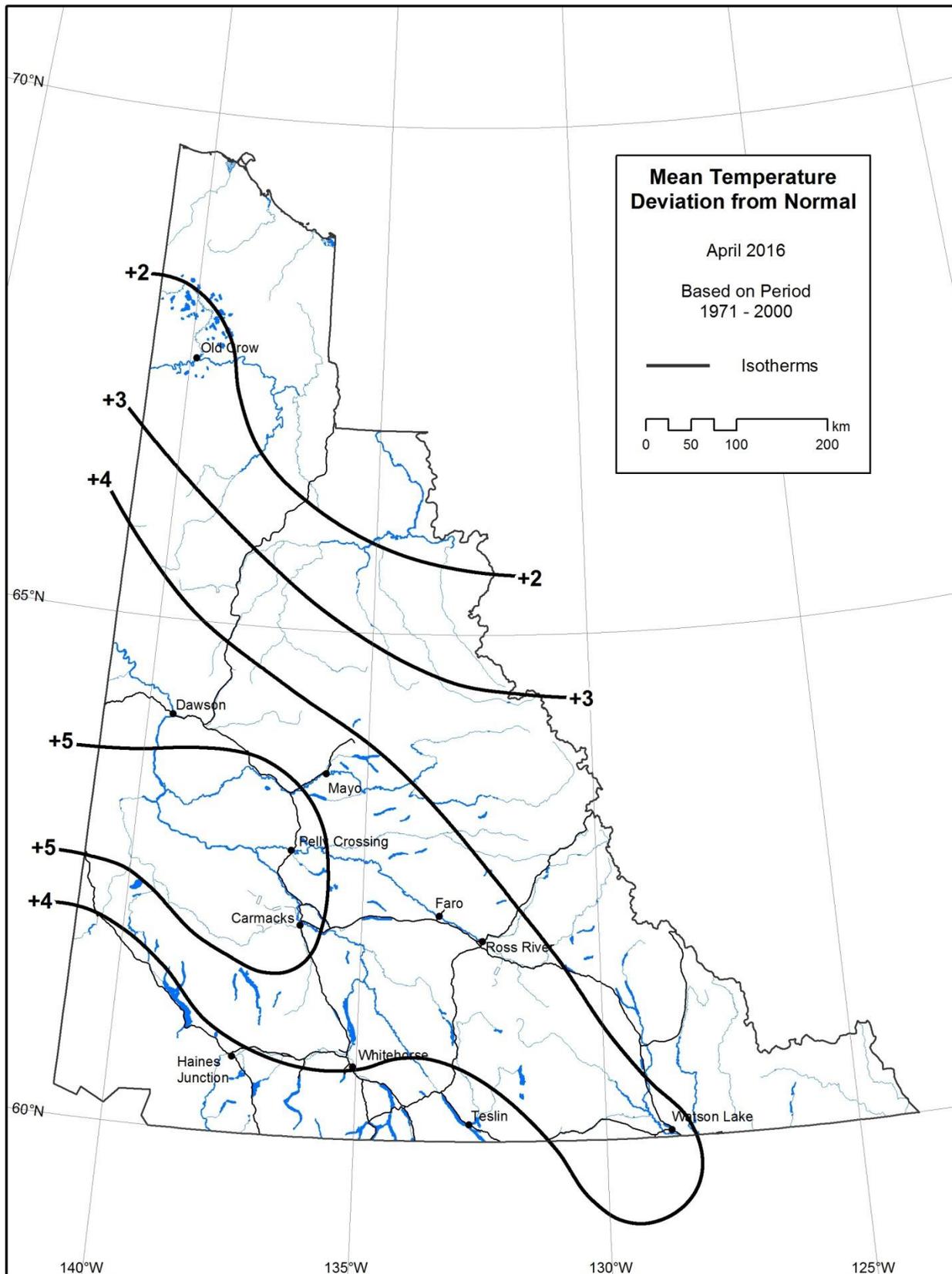
The first half of April was dominated by a series of upper ridges that brought warm and predominantly dry air to the territory. Due to the warm weather, much of the precipitation in southern and central Yukon fell as rain and the first lightning strikes were recorded mid-month, two to three weeks earlier than normal. The latter half of the month was dominated by a series of upper troughs that brought cool, unstable air along with rain and snow showers to most areas. All stations reported above-normal temperatures for the month. West-central Yukon reported above-normal precipitation in what is typically the driest month of the year and southeast Yukon reported approximately half of normal precipitation.

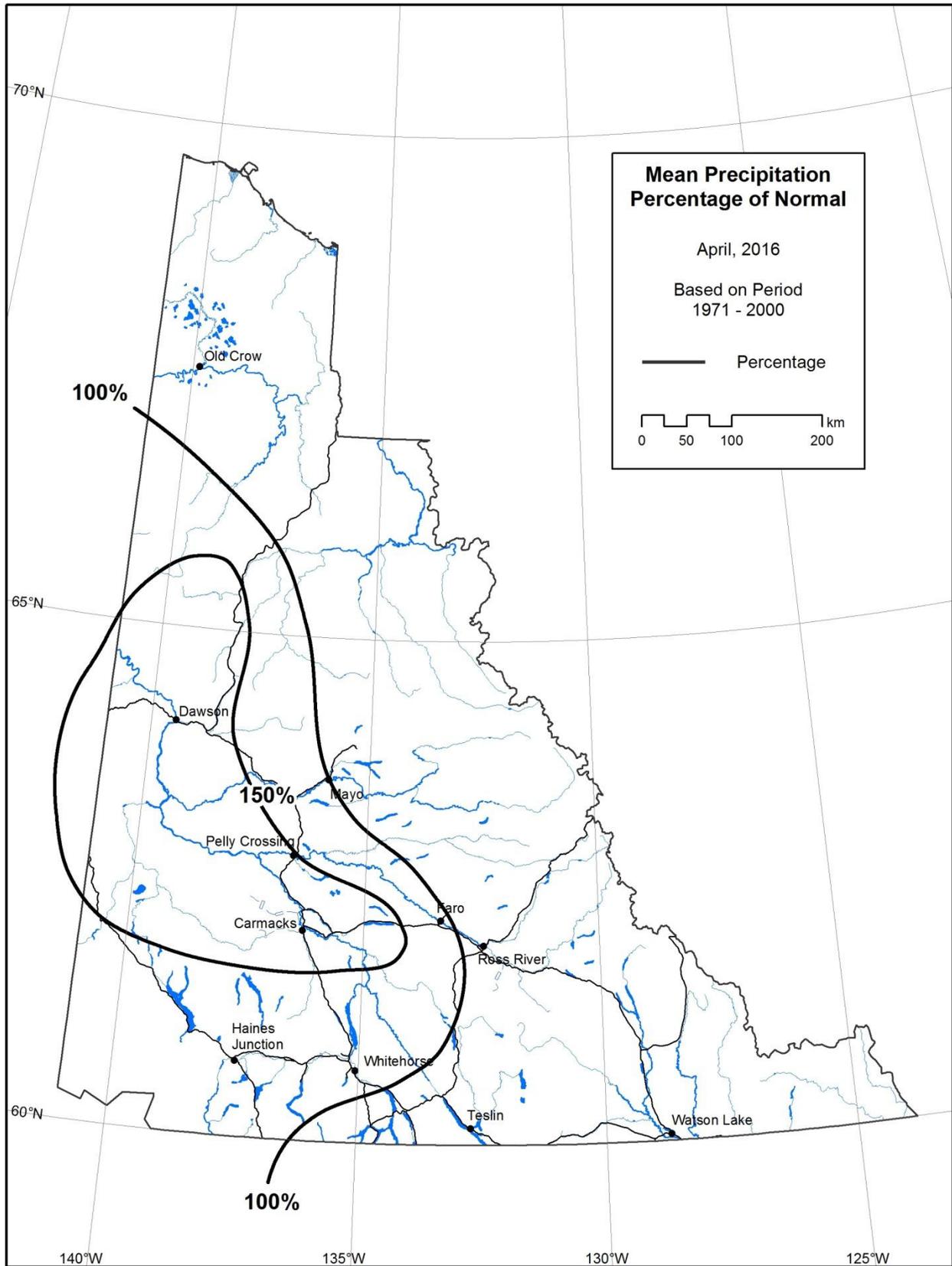
SNOWPACK

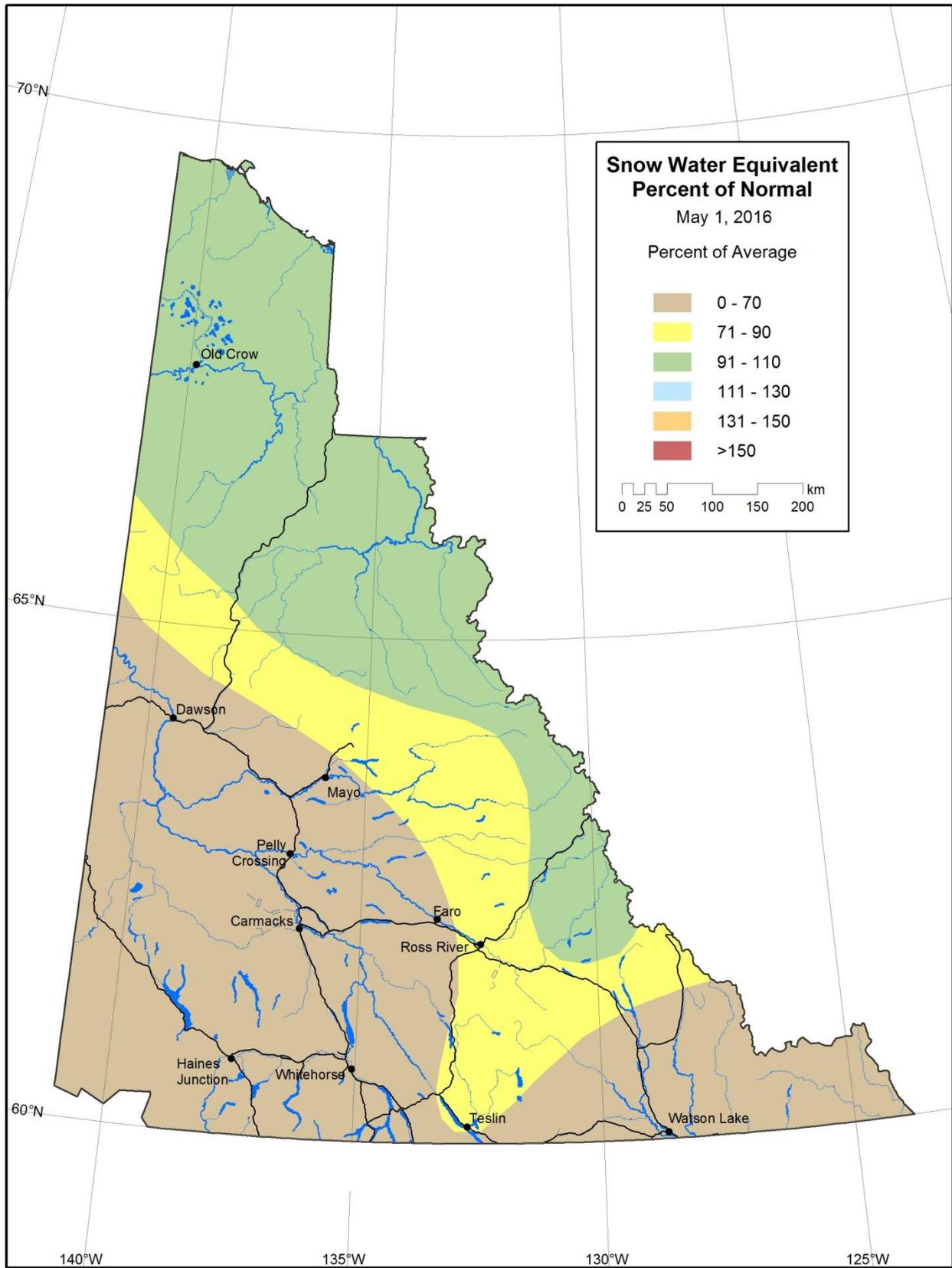
The May 1st snowpack was predominantly below normal across the Yukon. Snowpack values ranged from well below normal in southeastern and southwestern Yukon to below normal in central regions and near normal in northern regions.

STREAMFLOW

Streamflow conditions throughout the Yukon are generally above normal with the exception of the upper Yukon River which is normal. The Stewart, Pelly, Alsek, Peel, Liard and Porcupine Rivers are all well above normal for this time of year. This is largely due to the early arrival of spring runoff combined with late winter baseflow.







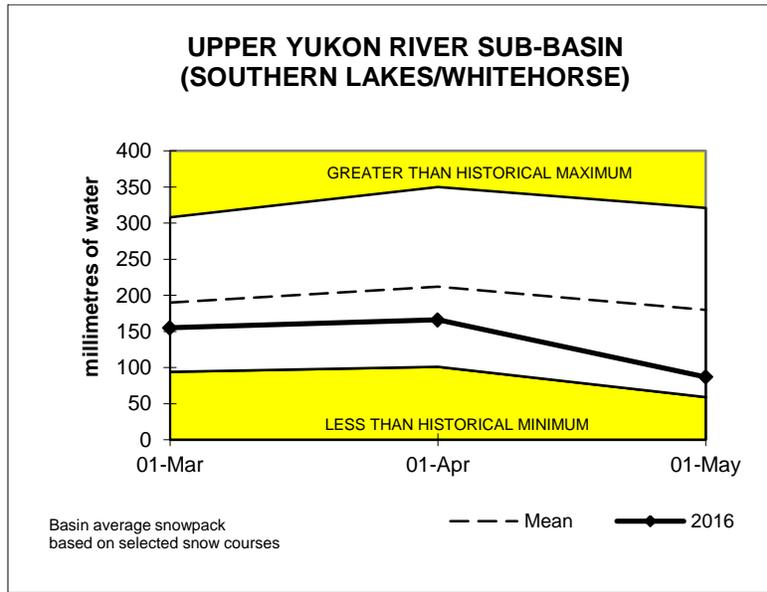
Yukon Snow Survey May 2016

YUKON RIVER BASIN

Snowpack conditions in the Yukon River basin range from below normal in the northern portion of the basin to well below normal in southwestern regions. Overall conditions for the Yukon River basin are below normal.

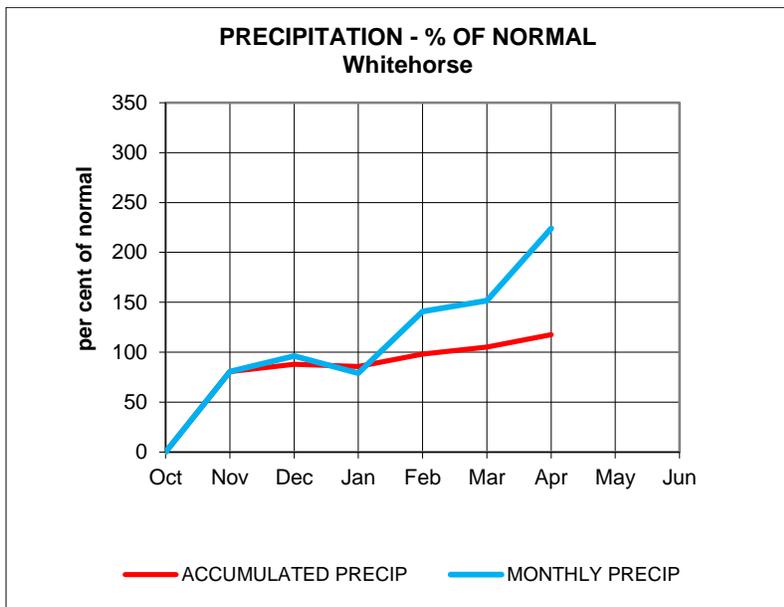
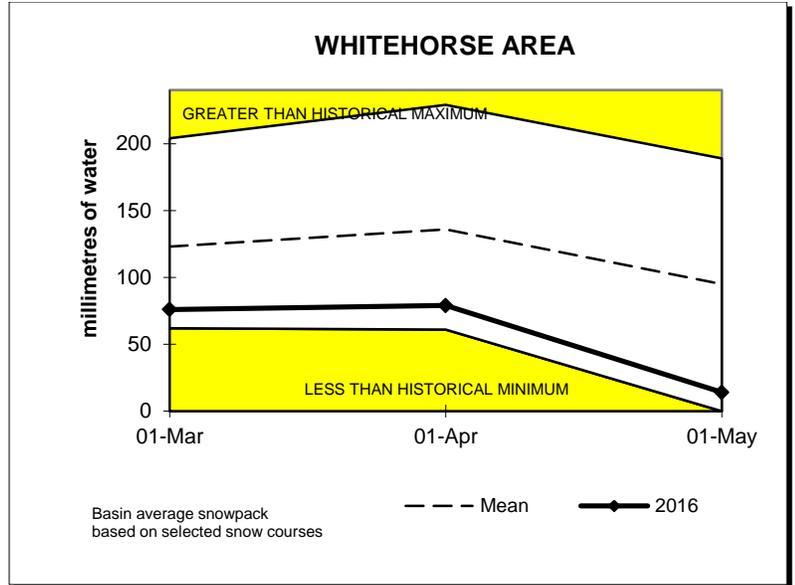
UPPER YUKON RIVER SUBBASIN (SOUTHERN LAKES)

Snowpack conditions in the upper Yukon River watershed are well below normal. Values range from no snow at Atlin and Montana Mountain to 85 per cent of normal at Meadow Creek. The basin-wide average has been estimated to be 48 per cent of normal.

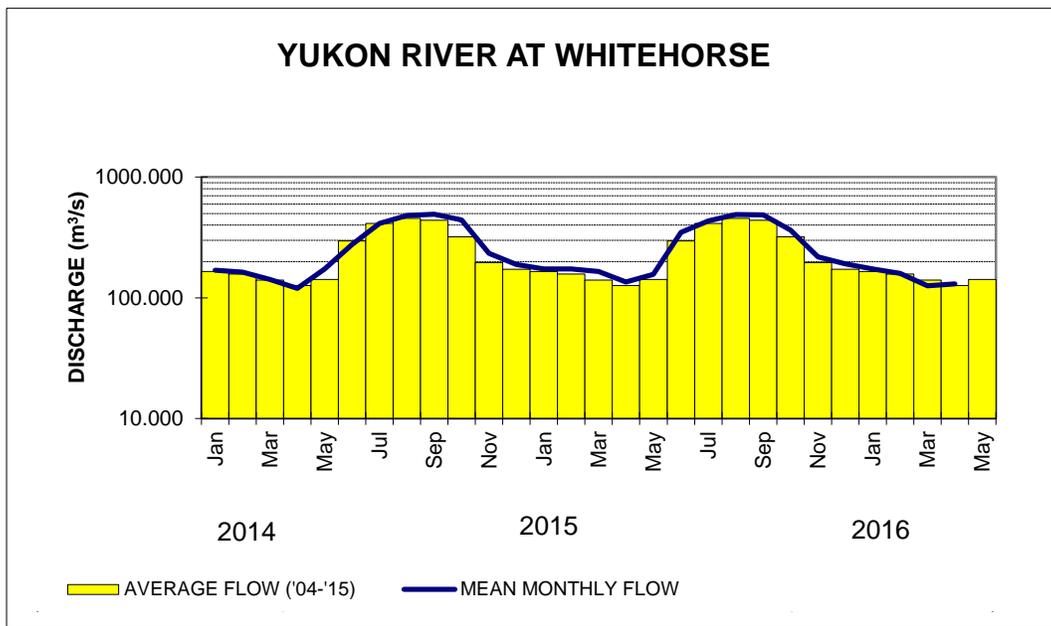
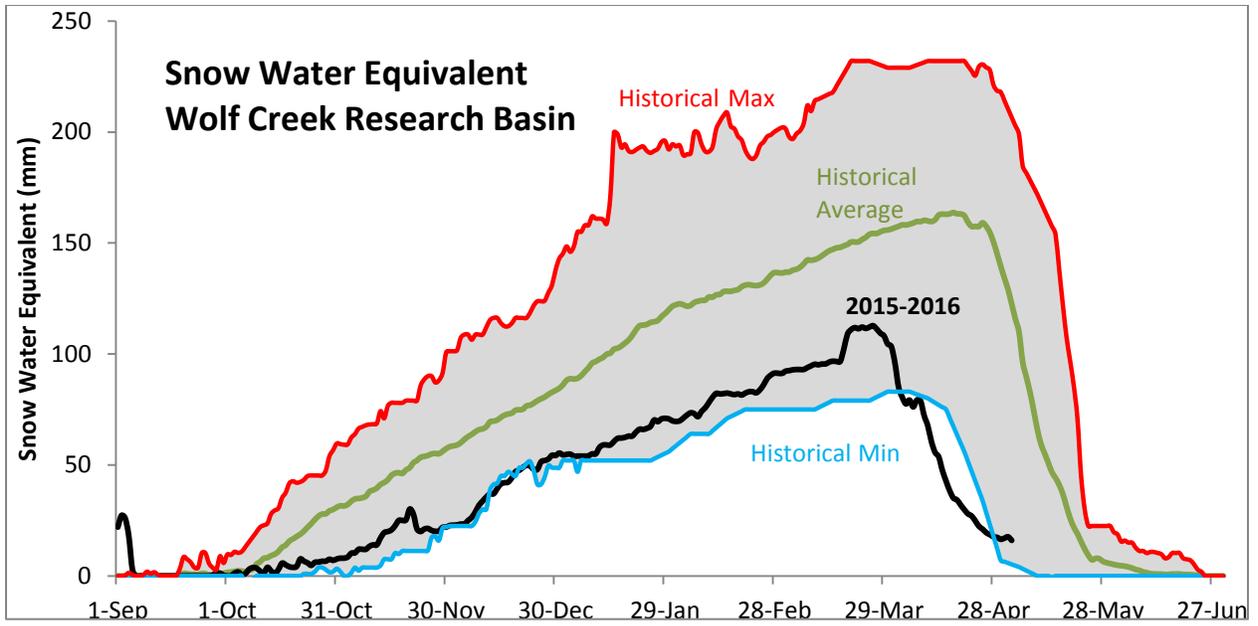


WHITEHORSE AREA

Snowpack conditions in the Whitehorse area are well below normal for April 1st. Values range from no snow at Whitehorse Airport and Montana Mountain to 27 per cent of normal at Mt McIntyre. An area-wide average is estimated to be 14 per cent of normal.

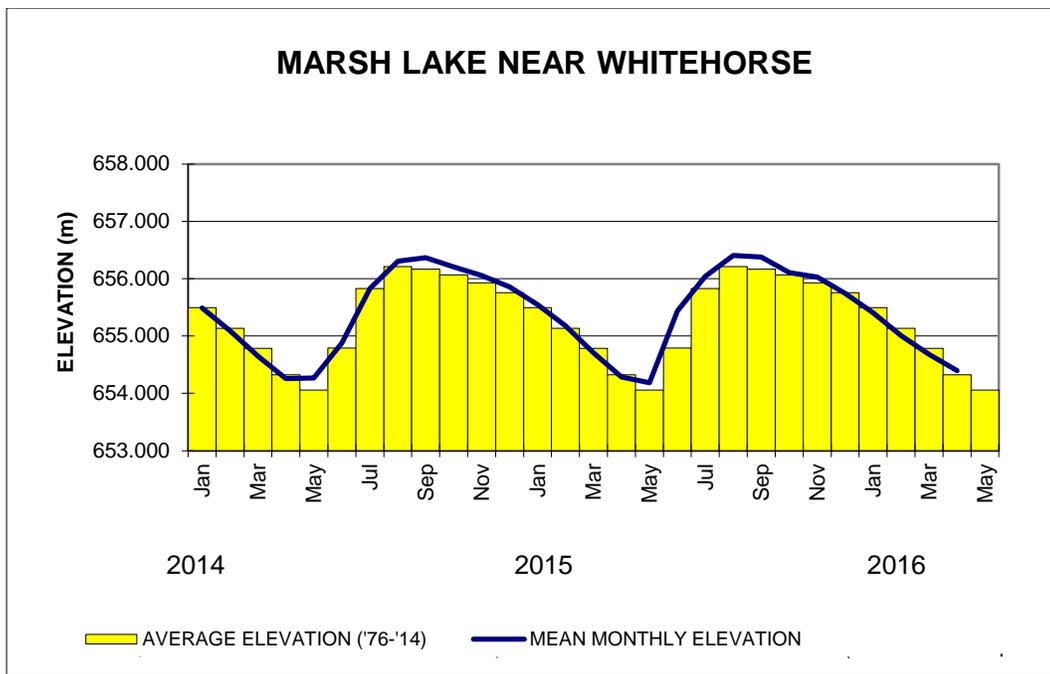


April precipitation data at the Whitehorse Airport was not included as it was found to be problematic.



YUKON RIVER and MARSH LAKE

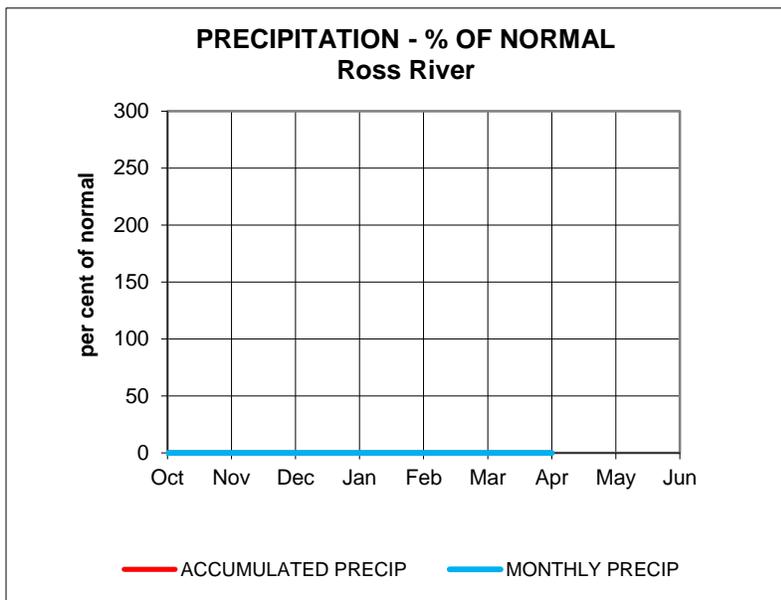
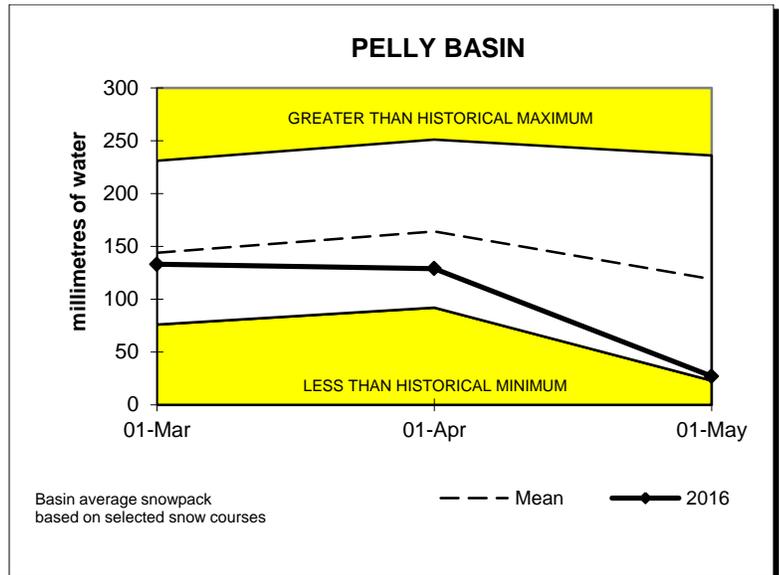
The mean elevation of Marsh Lake during April was 654.397 m or 0.07 m below normal. Yukon River at Whitehorse mean discharge during April was 103 per cent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are each expected to be 80 and 75 per cent of normal, respectively.



PELLY RIVER SUBBASIN

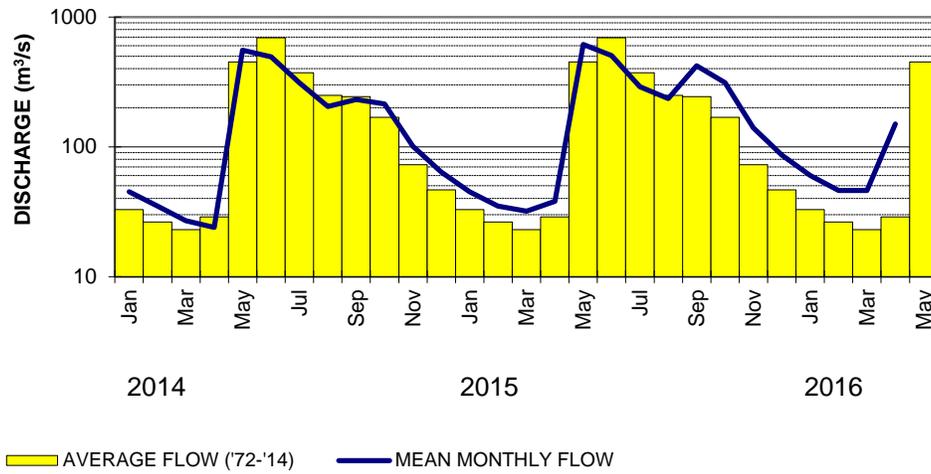
Snowpack conditions in the Pelly River watershed are well below normal for May 1st. Values of snow water equivalent range from no snow at Hoole River to 36 per cent of normal at Twin Creeks. A basin-wide average has been estimated to be 23 per cent of normal.

The mean April streamflow for the watershed was above normal as indicated by the Pelly River below Vangorda Creek. Given normal summer meteorological conditions, volume runoff and peak flows are expected to be 80 and 75 per cent of normal, respectively.



No precipitation data was reported for the Ross River gauge during the winter of 2015-16.

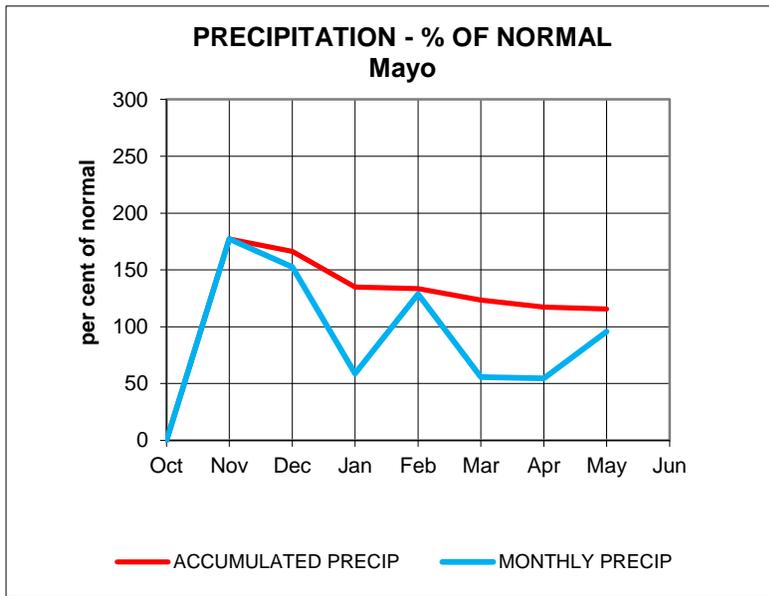
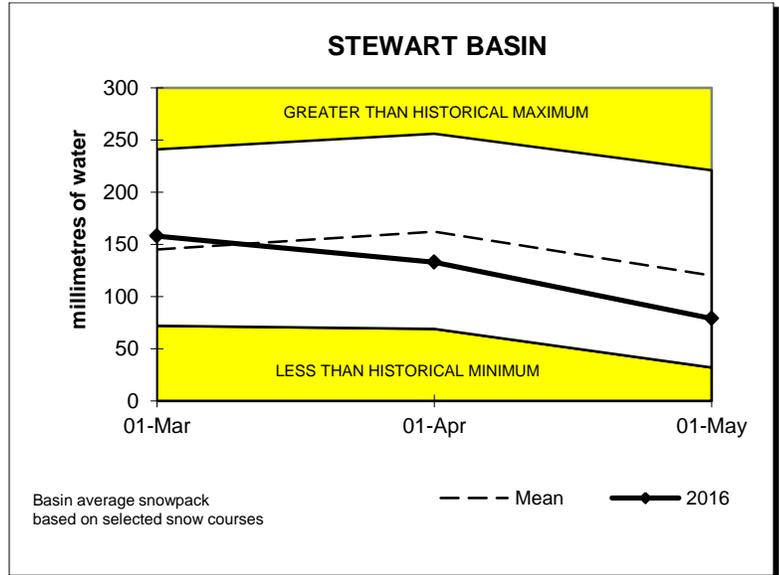
PELLY RIVER BELOW VANGORDA CREEK

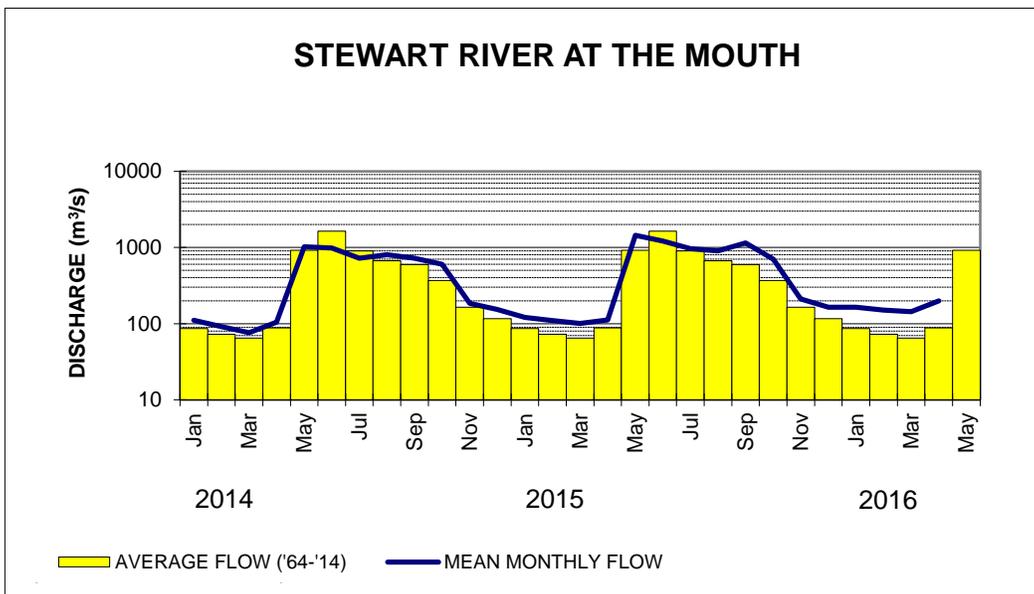
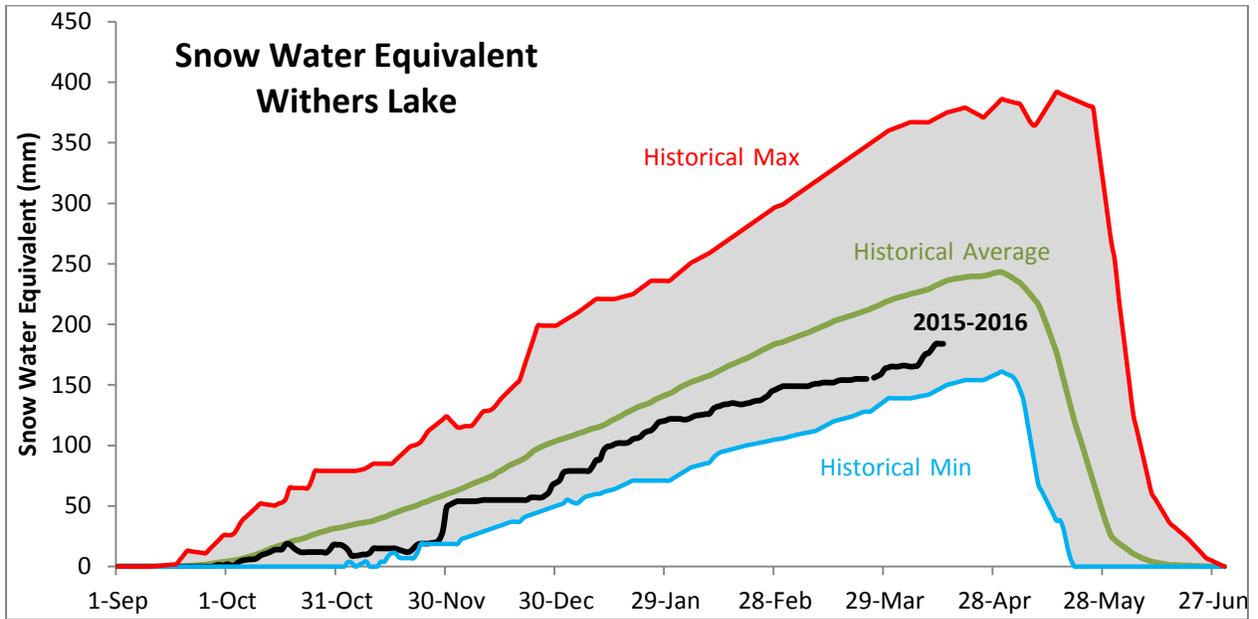


STEWART RIVER SUBBASIN

Snowpack conditions in the Stewart River watershed are below normal for May 1st. Values of snow water equivalent range from no snow at Mayo Airport to 87 per cent of normal at Calumet. A basin-wide average has been estimated to be 66 per cent of normal.

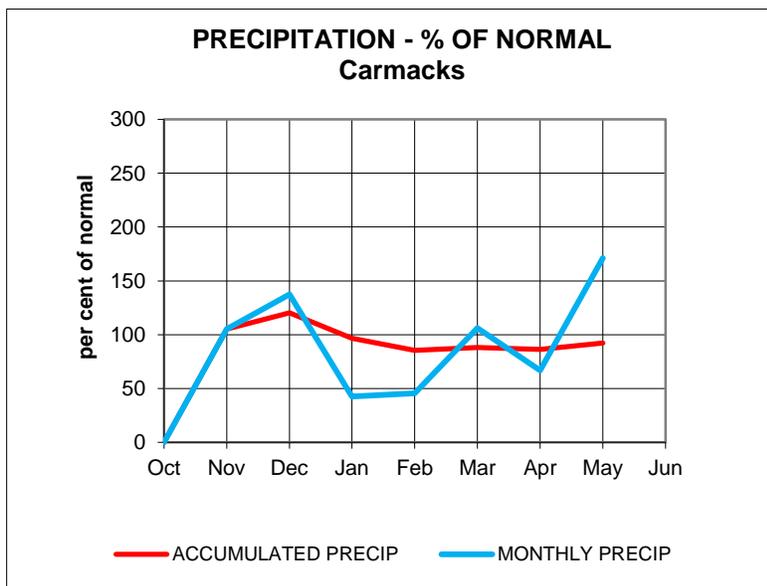
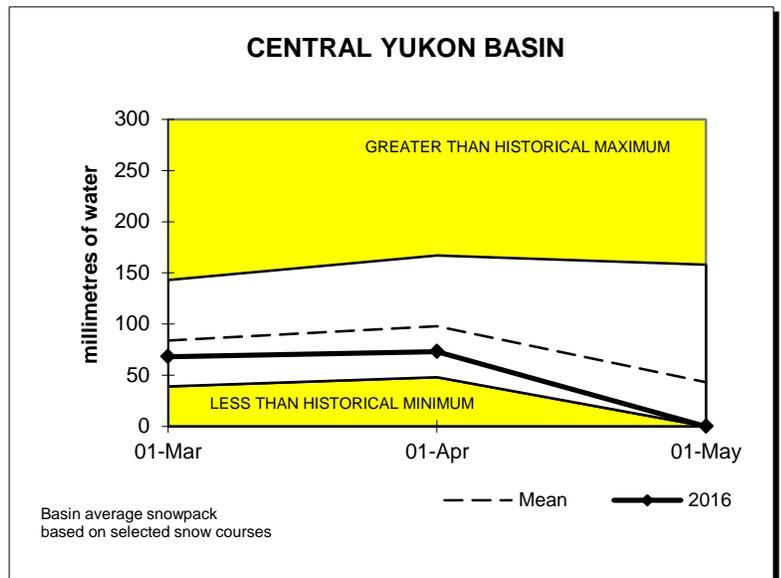
The mean April streamflow for the watershed was above normal as indicated by the Stewart River at the Mouth. Given normal summer meteorological conditions, volume runoff and peak flows for the season are each expected to be 80 and 85 per cent of normal, respectively.





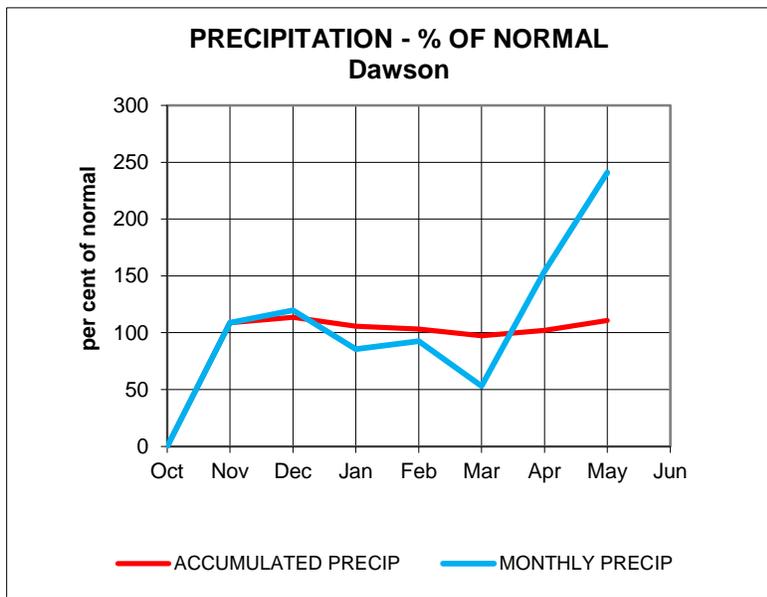
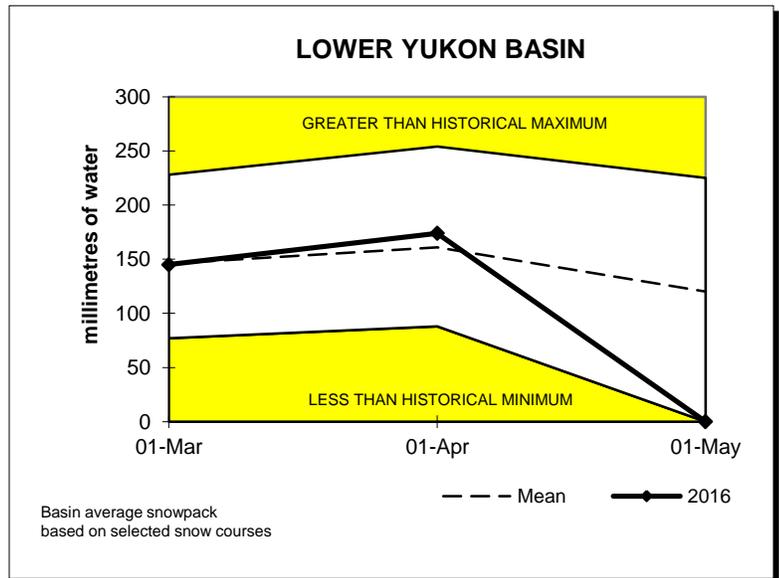
CENTRAL YUKON RIVER BASIN (CARMACKS AREA)

Snowpack conditions in the Carmacks area are well below normal for May 1st. No snow was reported at any of six snow survey courses within the area. Although it is common for one or more sites to be free of snow by May 1st, this is the first year on record that all six stations have reported no snow on this date.



LOWER YUKON RIVER BASIN (DAWSON AREA)

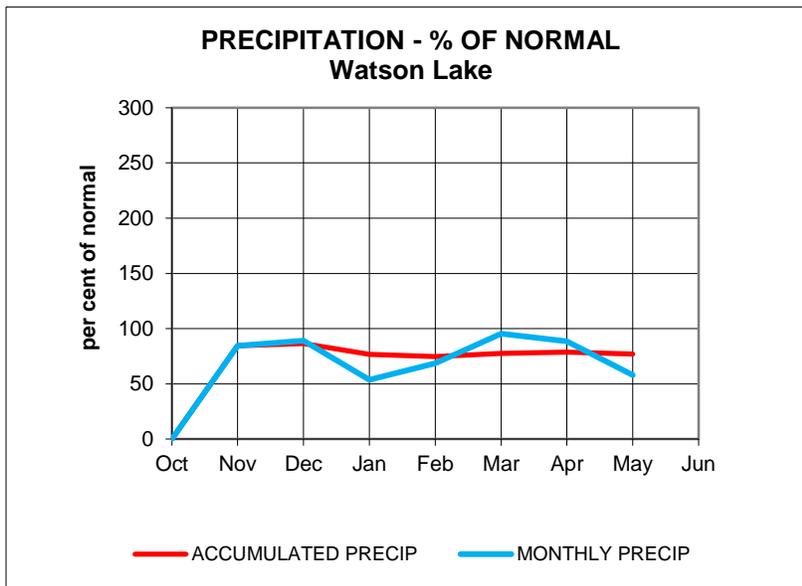
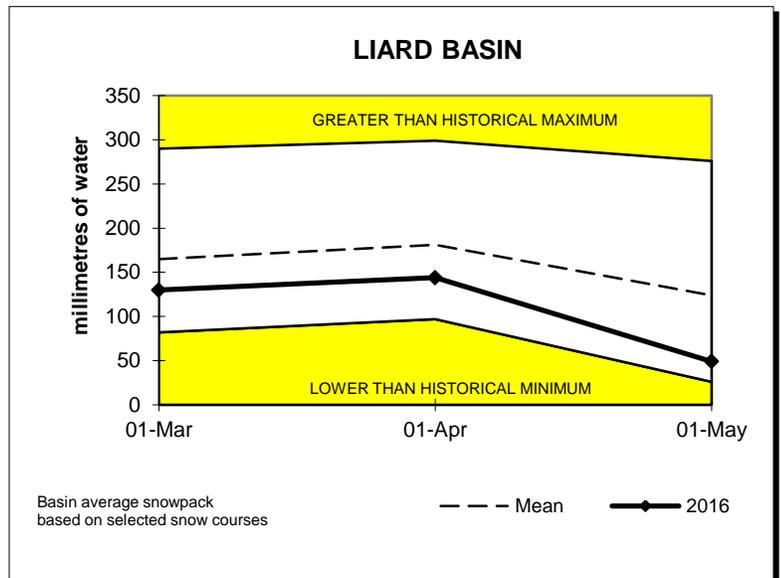
Snowpack conditions in the Dawson area are well below normal for May 1st. No snow was reported at any of three snow survey courses within the area. Only twice previously in the historical record have all three sites been free of snow by May 1st.



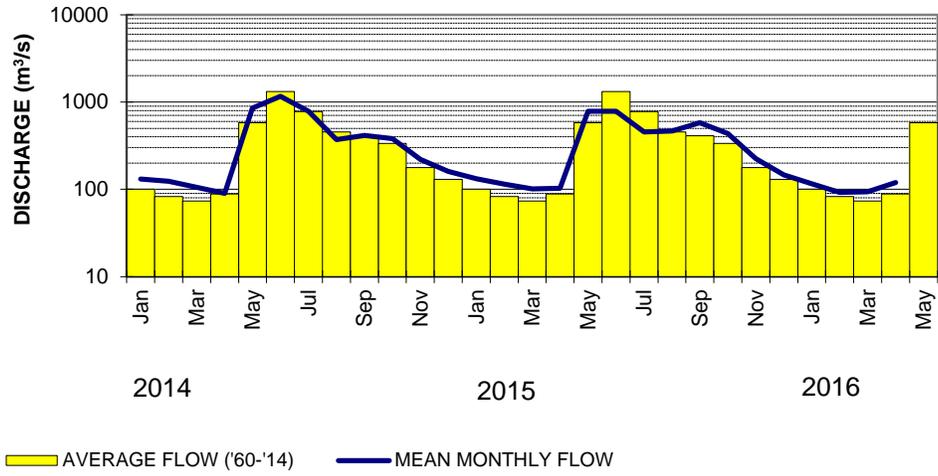
LIARD RIVER BASIN

Snowpack conditions within the Liard River watershed are well below normal. Values of snow water equivalent range from no snow at Watson Lake Airport and Hyland River to 71 per cent of normal at Tintina Airstrip. A basin-wide average has been estimated to be 39 per cent of normal.

Mean April streamflow for the Liard River upstream of Upper Liard was 136 per cent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 75 and 80 per cent of normal, respectively.



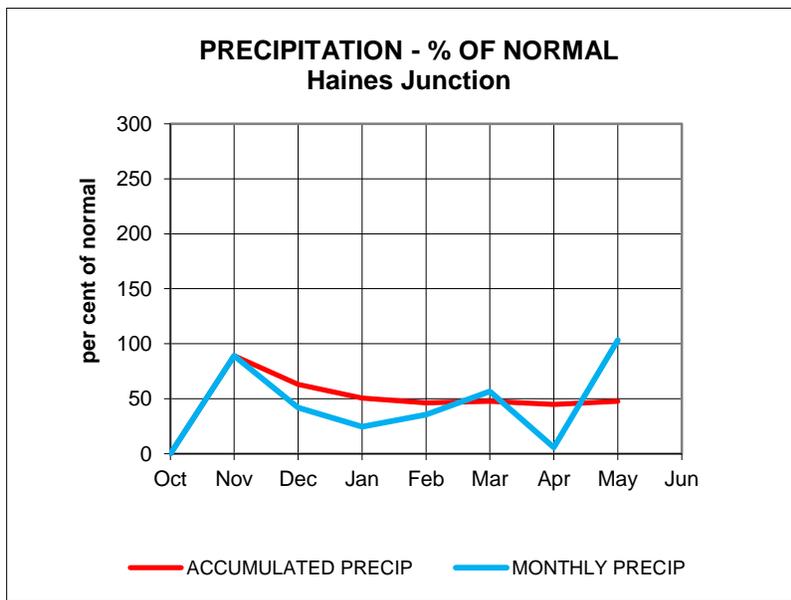
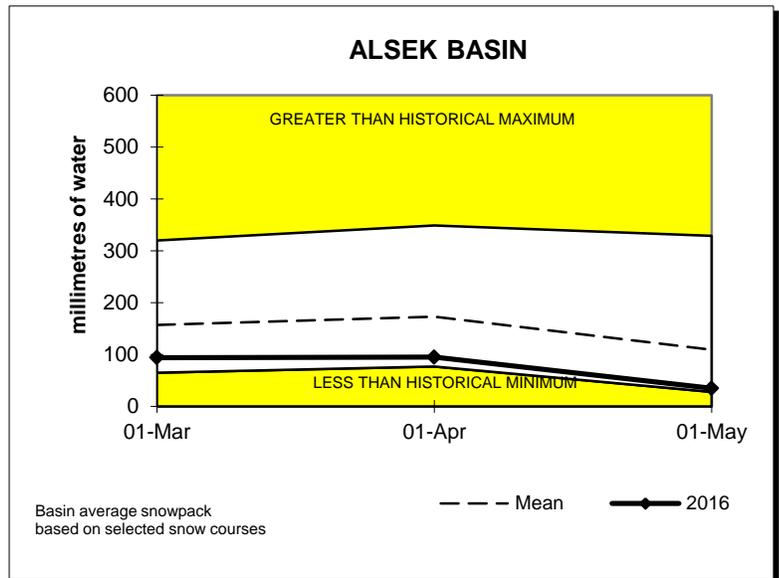
LIARD RIVER AT UPPER CROSSING



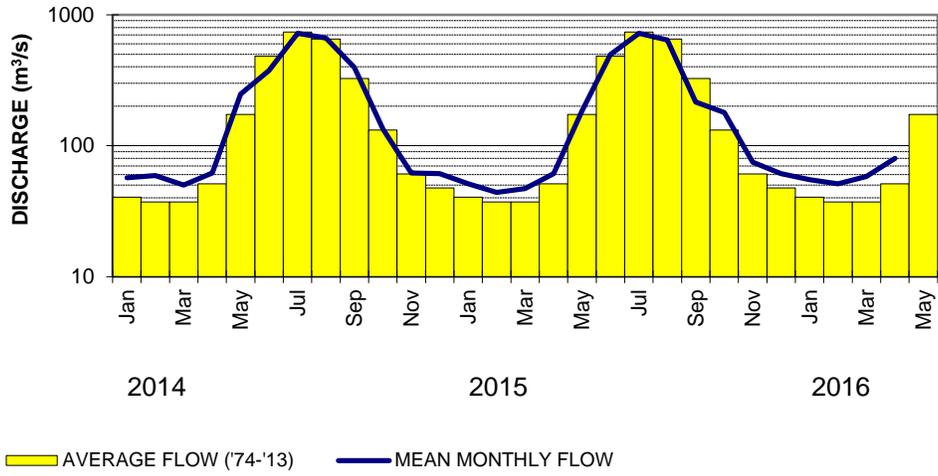
ALSEK RIVER BASIN

Snowpack conditions within the Alsek River watershed are well below normal for May 1st. Values of snow water equivalent range from no snow at Canyon Lake and Alder Creek to 50 per cent of normal at Summit. A basin-wide average has been estimated to be 32 per cent of normal.

Mean monthly streamflow for April as indicated by the Alsek River above Bates River was 157 per cent of normal. The Alsek River is primarily a glacial regime type, which is largely dependent on summer temperatures. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 50 and 55 per cent of normal, respectively.



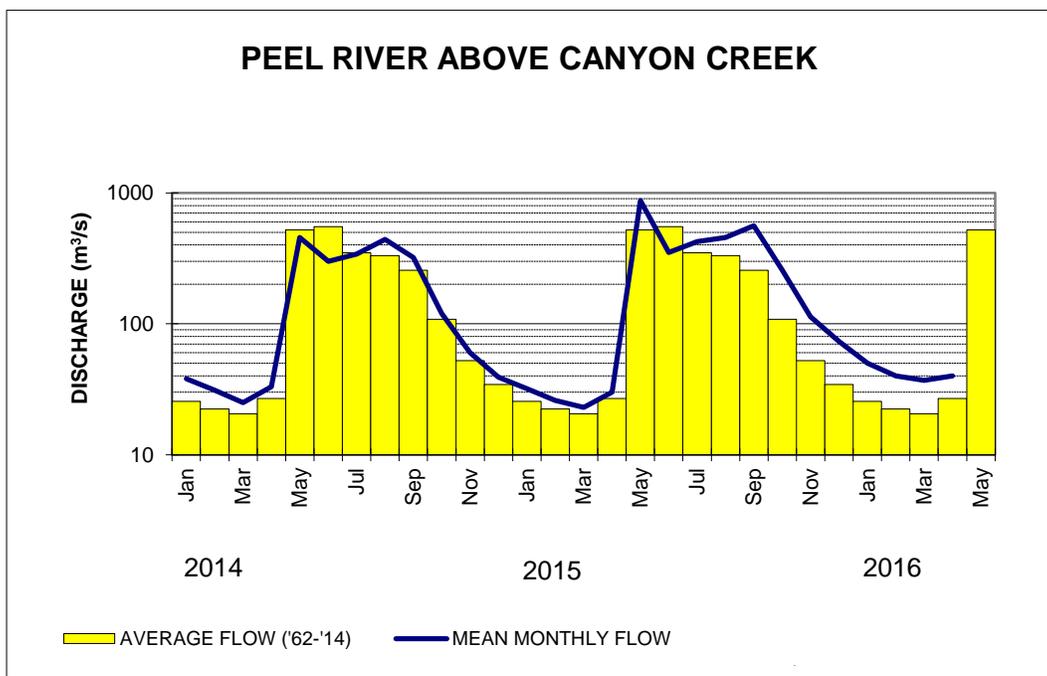
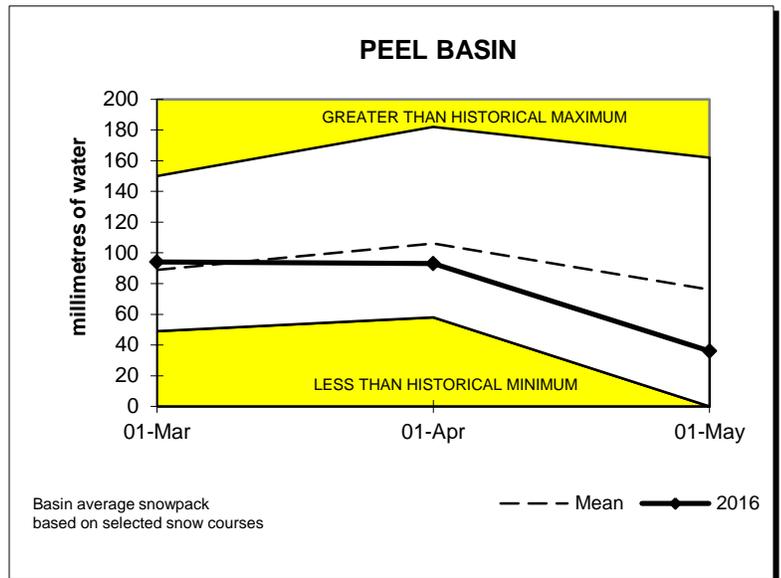
ALSEK RIVER ABOVE BATES RIVER



PEEL RIVER BASIN

Snowpack conditions in the Peel River watershed are below normal with values of snow water equivalent ranging from no snow at Blackstone to 94 per cent of normal at Ogilvie. A basin-wide average has been estimated to be 48 per cent of normal.

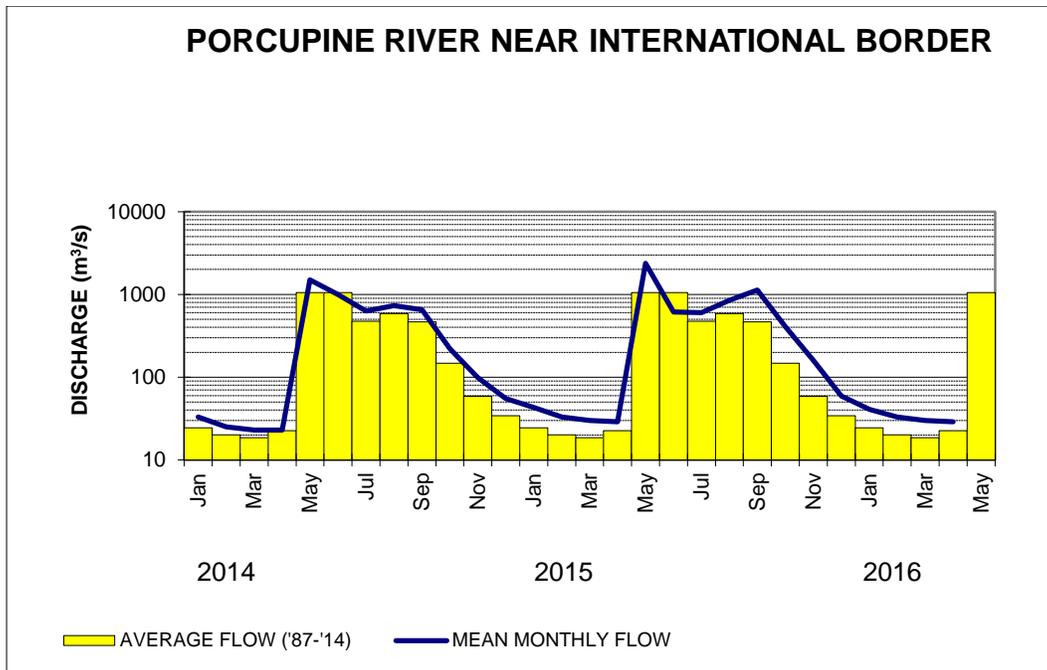
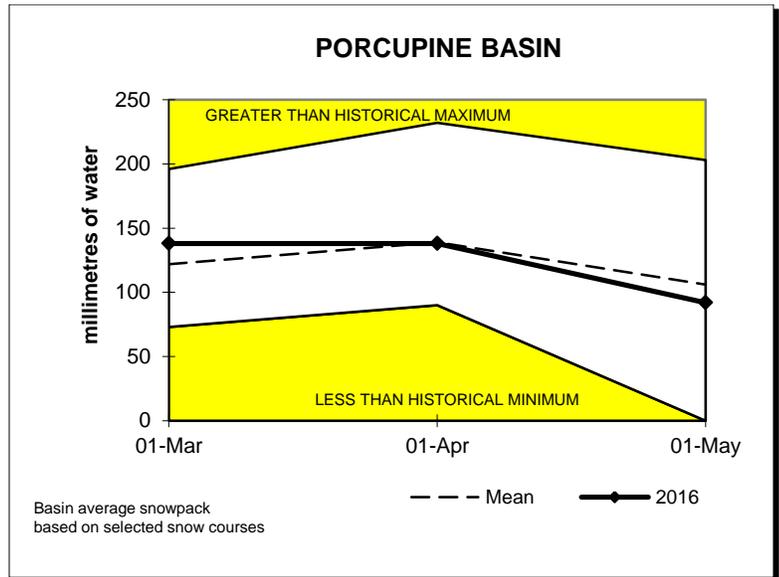
Mean monthly streamflow for March as indicated by the Peel River above Canyon Creek station was 149 per cent of normal. Given normal summer meteorological conditions, volume runoff and peak flows for the season are expected to be 85 and 90 per cent of normal, respectively.



PORCUPINE RIVER BASIN

Snowpack conditions in the Porcupine River watershed are slightly below normal with values of snow water equivalent ranging from no snow at Eagle River to 142 per cent of normal at Eagle Plains. A basin-wide average has been estimated to be 86 per cent of normal.

Mean April streamflow for the basin as indicated by the Porcupine River near the International Boundary is 128 per cent of normal. There is no flow forecast available for May 1st.



Drainage Basin and Snow Course

For Sample Date: 2016-05-01

Name	Number	Elev (m)	Date of Survey	Snow Depth (cm)	Water Content (mm)	Last Year (mm)	Average (mm)	Yrs of Rec
Alsek River Basin								
Canyon Lake	08AA-SC01	1160	2016-04-26	0	0	34	41	39
Alder Creek	08AA-SC02	768	2016-04-26	0	0	66	86	35
Aishihik Lake	08AA-SC03	945	2016-04-26	0	0	8	50	22
Haines Junction Farm	08AA-SC04	610	2016-04-27	0	0	0	48	16
Summit	08AB-SC03	1000	2016-04-29	33	104	143	207	36
Yukon River Basin								
Tagish	09AA-SC01	1080	2016-04-27	6	20	130	121	40
Montana Mountain	09AA-SC02	1020	2016-04-26	0	0	130	119	40
Log Cabin (B.C.)	09AA-SC03	884	2016-04-27	40	176	399	350	58
Atlin (B.C)	09AA-SC04	730	2016-05-01	0	0	0	46	49
Mt McIntyre B	09AB-SC01B	1097	2016-04-25	13	35	146	137	40
Whitehorse Airport	09AB-SC02	700	2016-04-25	0	0	0	27	49
Meadow Creek	09AD-SC01	1235	2016-04-28	69	237	324	285	40
Jordan Lake	09AD-SC02	930	No Surv			77	93	29
Morley Lake	09AE-SC01	824	2016-04-25	0	0	28	90	28
Mount Berdoe	09AH-SC01	1035	2016-04-26	0	0	0	63	40
Satasha Lake	09AH-SC03	1106	2016-04-26	0	0	0 E	30	27
Williams Creek	09AH-SC04	914	2016-04-26	0	0	0	43	19
Twin Creeks A	09BA-SC02A	900	2016-04-26	19	54	147	149	39
Hoole River	09BA-SC03	1036	2016-04-27	0	0	129	96	39
Burns Lake	09BA-SC04	1112	2016-04-27	58	201	234	220	30
Finlayson Airstrip	09BA-SC05	988	2016-04-27	0	0	48	57	29
Fuller Lake	09BB-SC03	1126	2016-04-26	65	223	241	211	30
Russell Lake	09BB-SC04	1060	2016-04-26	59	178	237	223	29
Rose Creek	09BC-SC01	1080	2016-04-25	0	0	44	44	22
Mount Nansen	09CA-SC01	1021	2016-04-26	0	0	0	20	39
MacIntosh	09CA-SC02	1160	2016-04-26	0	0	0 E	47	38
Burwash Airstrip	09CA-SC03	810	2016-04-27	0	0	0	9	39
Beaver Creek	09CB-SC01	655	2016-04-27	0	0	0	30	41
Chair Mountain	09CB-SC02	1067	No Surv			0	42	12
Casino Creek	09CD-SC01	1065	2016-04-26	0	0	165	124	38
Pelly Farm	09CD-SC03	472	2016-04-29	0	0	0	20	30
Plata Airstrip	09DA-SC01	830	2016-04-26	24	68	183	150	37
Withers Lake	09DB-SC01	975	2016-04-26	55	185	261	236	30
Rackla Lake	09DB-SC02	1040	2016-04-26	65	175	214	205	29
Mayo Airport A	09DC-SC01A	540	2016-04-28	0	0	0	14	45
Mayo Airport B	09DC-SC01B	540	2016-04-28	0	0	0	13	28
Edwards Lake	09DC-SC02	830	2016-04-26	32	92	150	157	29
Calumet	09DD-SC01	1310	2016-04-28	64	170	184	193	35
King Solomon Dome	09EA-SC01	1080	2016-04-25	0	0	145	107	41
Grizzly Creek	09EA-SC02	975	2016-04-30	0	0	109	121	41
Midnight Dome	09EB-SC01	855	2016-04-25	0	0	160	129	41

Code "E" - Estimate, Code "B" - Survey date is outside of valid sampling range

Drainage Basin and Snow Course

For Sample Date: 2016-05-01

Name	Number	Elev (m)	Date of Survey	Snow Depth (cm)	Water Content (mm)	Last Year (mm)	Average (mm)	Yrs of Rec
Porcupine River Basin								
Riff's Ridge	09FA-SC01	650	2016-04-30	42	104	235	119	29
Eagle Plains	09FB-SC01	710	2016-04-30	60	186	256	128	31
Eagle River	09FB-SC02	340	2016-04-30	0	0	170	98	31
Old Crow	09FD-SC01	299	2016-05-01	49	89	179	91	31
Liard River Basin								
Watson Lake Airport	10AA-SC01	685	2016-04-26	0	0	0	51	51
Tintina Airstrip	10AA-SC02	1067	2016-04-27	44	130	196	186	39
Pine Lake Airstrip	10AA-SC03	995	2016-04-26	33	105	196	200	40
Ford Lake	10AA-SC04	1110	2016-04-27	40	109	184	178	28
Frances River	10AB-SC01	730	2016-04-27	6	8	0	90	41
Hyland River	10AD-SC01	855	2016-04-27	0	0	114	116	40
Peel River Basin								
Blackstone River	10MA-SC01	920	2016-04-30	0	0	92	70	40
Ogilvie River	10MA-SC02	595	2016-04-30	45	72	127	73	39
Bonnet Plume Lake	10MB-SC01	1120	2016-04-26	70	222	204	194	30
Alaska Snow Courses								
Eaglecrest	08AK-SC01	305	2016-05-01	0	0	0	439	32
Moore Creek Bridge	08AK-SC02	700	No Surv			445	506	23

Code "E" - Estimate, Code "B" - Survey date is outside of valid sampling range

INDEX OF YUKON SNOW COURSES 2016

NAME	NUMBER	ELEVATION (m)	LATITUDE	LONGITUDE	AGENCY
YUKON RIVER BASIN					
Tagish	09AA-SC1	1080	60°17'	134°11'	2
Montana Mountain	09AA-SC2	1020	60°08'	134°44'	2
Log Cabin (B.C.)	09AA-SC3	884	59°46'	134°58'	2
Atlin (B.C.)	09AA-SC4	730	59°34'	133°42'	3
Mt. McIntyre (B)	09AB-SC1B	1097	60°39'	135°08'	1
Whitehorse Airport	09AB-SC2	700	60°42'	135°04'	1
Meadow Creek	09AD-SC1	1235	60°35'	133°05'	2
Jordan Lake	09AD-SC2	930	60°52'	132°50'	2
Morley Lake	09AE-SC1	824	60°00'	132°07'	2
Mount Berdoe	09AH-SC1	1035	62°02'	136°14'	2
Satasha Lake	09AH-SC3	1106	61°29'	136°16'	2
Williams Creek	09AH-SC4	914	60°21'	136°43'	2
Twin Creeks	09BA-SC2	900	62°37'	131°16'	2
Hoole River	09BA-SC3	1036	61°32'	131°36'	2
Burns Lake	09BA-SC4	1112	62°17'	129°57'	2
Finlayson Airstrip	09BA-SC5	988	61°42'	130°46'	2
Fuller Lake	09BB-SC3	1126	62°58'	130°46'	2
Rose Creek	09BC-SC01	1080	62°20'	133°23'	2
Russell Lake	09BB-SC4	1060	63°12'	133°29'	2
Mount Nansen	09CA-SC1	1021	62°02'	137°03'	2
MacIntosh	09CA-SC2	1160	61°43'	137°20'	2
Burwash Airstrip	09CA-SC3	810	61°23'	139°03'	2
Beaver Creek	09CB-SC1	655	62°25'	140°51'	2
Chair Mountain	09CB-SC2	1067	62°04'	140°48'	2
Casino Creek	09CD-SC1	1065	62°44'	138°48'	2
Pelly Farm	09CD-SC3	472	62°50'	137°20'	7
Plata Airstrip	09DA-SC1	830	63°31'	132°03'	2
Withers Lake	09DB-SC1	975	63°59'	132°18'	2
Rackla Lake	09DB-SC2	1040	64°17'	133°15'	2
Calumet	09DD-SC1	1310	63°55'	135°24'	2
King Solomon Dome	09EA-SC1	1080	63°52'	138°56'	2
Mayo Airport (A)	09DC-SC1A	540	63°38'	135°53'	2
Mayo Airport (B)	09DC-SC1B	540	63°38'	135°53'	2
Edwards Lake	09DC-SC2	830	63°42'	134°18'	2
Grizzly Creek	09EA-SC2	975	64°26'	138°16'	2
Midnight Dome	09EB-SC1	855	64°04'	139°24'	2
Boundary (Alaska)	09EC-SC2	1005	64°05'	141°27'	4

NAME	NUMBER	ELEVATION (m)	LATITUDE	LONGITUDE	AGENCY
LIARD RIVER BASIN					
Watson Lake Airport	10AA-SC1	685	60°07'	128°50'	2
Tintina Airstrip	10AA-SC2	1067	61°05'	131°15'	2
Pine Lake Airstrip	10AA-SC3	995	60°06'	130°56'	2
Ford Lake	10AA-SC4	1110	60°47'	131°28'	2
Frances River	10AB-SC1	730	60°35'	129°11'	2
Hyland River	10AD-SC1	855	61°31'	128°16'	2
ALSEK RIVER BASIN					
Canyon Lake	08AA-SC1	1160	61°07'	136°59'	6
Alder Creek	08AA-SC2	768	60°22'	137°06'	5
Aishihik Lake	08AA-SC3	945	61°12'	137°00'	6
Haines Junction Farm	08AA-SC4	610	60°45'	137°34'	2
Summit	08AB-SC3	1000	60°51'	137°47'	2
PEEL RIVER BASIN					
Blackstone River	10MA-SC1	920	64°57'	138°15'	2
Ogilvie River	10MA-SC2	595	65°21'	138°18'	2
Bonnet Plume Lake	10MB-SC1	1120	64°18'	132°00'	2
PORCUPINE RIVER BASIN					
Riff's Ridge	09FA-SC1	650	65°57'	137°22'	2
Eagle Plains	09FB-SC1	710	66°22'	136°44'	2
Eagle River	09FB-SC2	340	66°27'	136°43'	2
Old Crow	09FD-SC1	299	67°34'	139°51'	5
ALASKA SNOW COURSES					
Eaglecrest	34J03	305	58°17'	134°32'	4
Moore Creek Bridge	34K02	701	59°31'	135°15'	4

Numbers refer to Agencies cooperating in the Yukon Snow Surveys:

1. Department of Environment, Government of Yukon
2. Department of Energy Mines and Resources, Government of Yukon
3. British Columbia Ministry of Environment
4. USDA Natural Resources Conservation Service
5. Parks Canada
6. Yukon Energy Corporation
7. Private Contract

